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(c or carbon) and (mn or manganese) and (oxygen or
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cb or columbium) and (v or vanadium) and enamel\$8

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File: JPAB

Nov 14, 1990

PUB-NO: JP402277718A

DOCUMENT-IDENTIFIER: JP 02277718 A

TITLE: PRODUCTION OF COLD ROLLED STEEL SHEET FOR PORCELAIN ENAMELING

PUBN-DATE: November 14, 1990

INVENTOR-INFORMATION:

NAME

COUNTRY

FURUNO, YOSHIKUNI

ASSIGNEE-INFORMATION:

NAME

COUNTRY

NIPPON STEEL CORP

N/A

APPL-NO: JP01098976

APPL-DATE: April 20, 1989

US-CL-CURRENT: 148/541

INT-CL (IPC): C21D 8/04; B22D 11/12; B22D 11/16; C22C 38/00; C22C 38/16

ABSTRACT:

PURPOSE: To produce a cold rolled steel sheet for porcelain enameling excellent in porcelain enameling characteristics and workability by carrying out hot rolling while holding the surface temp. of a continuously cast slab containing specific percentages of C, Mn, P, S, Al, N, O, Cu, V, and Nb at a specific value and then subjecting the resulting hot rolled plate to cold rolling and to recrystallization annealing.

CONSTITUTION: A cast slab having a composition which consists of $\leq 0.010\%$ C, $\leq 0.80\%$ Mn, $\leq 0.03\%$ P, $\leq 0.030\%$ S, $\leq 0.0040\%$ N, $0.007-0.040\%$ O, $0.010-0.060\%$ Cu, $0.010-0.06\%$ V and/or $0.004-0.030\%$ Nb, and the balance iron with inevitable impurities and in which the value of $V/(C+N)$ is regulated to about 3.5-8.0 is continuously cast. Subsequently, hot rolling is carried out without lowering the surface temp. of the above cast slab down to $\leq 800^{\circ}\text{C}$ or while holding the above surface temp. at 800°C by means of auxiliary heating. The resulting hot rolled steel plate is cooled without delay at \geq about $60^{\circ}\text{C}/\text{sec}$ cooling rate, coiled at about $650-750^{\circ}\text{C}$, and cold-rolled at about 75-85% rolling reduction, followed by recrystallization annealing at about $700-800^{\circ}\text{C}$.

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